

--17. (Amended) The method for producing xylitol or D-xylulose, which comprises:
culturing a bacterium having an ability to produce xylitol or D-xylulose from glucose
in a suitable medium to accumulate xylitol or D-xylulose in the medium, and
collecting xylitol or D-xylulose from the medium,
wherein an evolutionary distance of the bacterium, calculated by CLUSTAL W based
on the 16S rRNA gene nucleotide sequences, which respect to *Acetobacter methanolicus* is
not more than evolutionary distance between *Acetobacter methanolicus* and *Acetobacter
pasteurianus*, and an evolutionary distance of the bacterium with respect to *Acetobacter
pasteurianus* is not more than an evolutionary distance between *Acetobacter methanolicus*
and *Acetobacter pasteurianus*, and

wherein the bacterium has the following characteristics:

- (a) an ability to produce xylitol or D-xylulose from glucose;
- (b) quinone type: ubiquinone-10;
- (c) GC content of DNA: about 56 to 57%;
- (d) an ability to produce acetic acid from ethanol; and
- (e) grows in the presence of 30% glucose.

18. (Amended) The method according to claim 17, wherein the bacterium belongs to
the genus *Asaia*.

19. (Amended) The method according to claim 18, wherein the bacterium belongs to
Asaia ethanolicaciens.

20. (Amended) The method according to claim 19, wherein the bacterium has a 16S
rRNA gene comprising the nucleotide sequence of SEQ ID NO: 1.

22. (Amended) A method for producing xylitol or D-xylulose, which comprises:
culturing a bacterium having an ability to produce xylitol or D-xylulose from glucose
in a suitable medium to accumulate xylitol or D-xylulose in the medium, and
wherein an evolutionary distance of the bacterium, calculated by CLUSTAL W based
on the 16S rRNA gene nucleotide sequences, with respect to *Gluconobacter oxydans* subsp.
oxydans is not more than an evolutionary distance between *Gluconobacter oxydans* subsp.
oxydans and *Acetobacter aceti*, and an evolutionary distance of the bacterium with respect to
Acetobacter aceti is not more than an evolutionary distance between *Gluconobacter oxydans*
subsp. *oxydans* and *Acetobacter aceti*, and

wherein the bacterium has the following characteristics:

- (a) an ability to produce xylitol or D-xylulose from glucose;
- (b) quinone type: ubiquinone-10;
- (c) GC content of DNA: about 52 to 53%;
- (d) an weak ability to produce acetic acid from ethanol; and
- (e) grows in the presence of 30% glucose.

23. (Amended) The method according to claim 22, wherein the bacterium belongs to
the genus *Zucharibacteri*.

24. (Amended) The method according to claim 23, wherein the bacterium belongs to
Zucharibacter floricola.

25. (Amended) The method according to claim 24, wherein the bacterium has a 16S
rRNA gene comprising the nucleotide sequence of any one of SEQ ID Nos: 2, 3, 4 or 5--